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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/332,140	12/10/2008	Denis Hagemeier	03086.500400.	3938

5514 7590 12/01/2016

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ART UNIT	PAPER NUMBER
2461	

MAIL DATE	DELIVERY MODE
12/01/2016	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DENIS HAGEMEIER and TORSTEN GOERIG

Appeal 2015-000183
Application 12/332,140
Technology Center 2400

Before ST. JOHN COURTENAY III, CARLA M. KRIVAK, and JOYCE CRAIG, *Administrative Patent Judges*.

CRAIG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1, 2, 8, 13–17, 23, and 28–30, which constitute of all the claims pending in this application.[2] We have jurisdiction under 35 U.S.C. § 6(b). An oral hearing was conducted on November 10, 2016.

We reverse and enter new grounds of rejection under 37 C.F.R. § 41.50(b).

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[1] According to Appellants, the real party in interest is Rohde & Schwarz GmbH & Co. KG. App. Br. 4.

[2] Claims 3–7, 9–12, 18–22, and 24–27 have been canceled. App. Br. 6.

INVENTION

Appellants' invention relates to methods and devices for forming a common datastream according to the ATSC standard. Abstract. Claim 1 is illustrative and reads as follows:

> 1. A method for forming a common transport datastream from a plurality of mobile-digital television signal datastreams and from a common stationary-digital television signal datastream, the method comprising:
>
> determining, for each of the plurality of mobile-digital television signal datastreams, a first respective number of data units, the first respective number of data units being constant across each successive time interval, and each successive time interval including a plurality of sequences and having a constant cycle duration;
>
> determining, for the common stationary-digital television signal datastream, a second number of data units, the second number of data units being constant across each successive time interval;
>
> determining a number of first positions for data units of the plurality of mobile-digital television signal datastreams for each of the plurality of sequences by computing a greatest common divisor for the first respective numbers of data units, the number of first positions being constant across each of the plurality of sequences;
>
> determining a number of second positions for data units of the common stationary-digital television signal datastream for each of the plurality of sequences by dividing the second number of data units by the greatest common divisor, the number of second positions being constant across each of the plurality of sequences;
>
> determining a data structure for the common transport datastream arranged to contain the plurality of sequences, each of the plurality of sequences including the number of first positions and the number of second positions,

> wherein the first positions are successively arranged in each of the plurality of sequences and identical across each successive time interval and the second positions are successively arranged in each of the plurality of sequences and identical across each successive time interval; and
>
> packing the first positions of the data structure of the common transport datastream with the data units of the plurality of mobile-digital television signal datastreams and the second positions with the data units of the common stationary-digital television signal datastream.

REJECTIONS

Claims 1, 2, 8, and 13–15 stand rejected under 35 U.S.C. § 102(e) as anticipated by Doerr et al. (US 2009/0013356 A1; Jan. 8, 2009) ("Doerr").

Claims 16, 17, 23 and 28–30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Doerr and Magee et al. (US 2006/0093045 A1; Nov. 10, 1998) ("Magee").

ANALYSIS

With regard to claim 1, Appellants contend the cited portions of Doerr do not disclose the recited limitation:

> wherein the first positions are successively arranged in each of the plurality of sequences and identical across each successive time interval and the second positions are successively arranged in each of the plurality of sequences and identical across each successive time interval.

App. Br. 19 (emphasis omitted). In particular, Appellants argue that in paragraph 263 of Doerr, relied on by the Examiner, the first positions are not "successively arranged" because they do not follow one another, without

interruption. *Id.* Appellants contend "successively" and "consecutively" are synonymous. *Id.* n.3.

Appellants' arguments persuade us of Examiner error. We give contested claim limitations the broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). The Examiner concludes that, under the broadest reasonable interpretation, the recited term "successively" should not be considered identical to "consecutive." Ans. 8. The Examiner interprets "successively" to mean "[f]ollowing one another or following others." *Id.*[3]

However, we find the Examiner's interpretation of "successively" is inconsistent with Appellants' Specification. Paragraph 52 of the Specification describes that "successive arrangement" of the positions for data units is distinguished from "intermittent" arrangement of the positions. Spec. ¶ 52. In particular, paragraph 52 describes that the successive arrangement of the positions for data units as shown in Figures 6–9 is not compulsory and that the positions provided in every sequence for data units of a mobile-digital television can be intermittently arranged relative to the positions provided in every sequence for data units of a stationary-digital television, as shown in Figures 10A and 10B. *Id.* Under the Examiner's interpretation of "successively," however, the respective data units in Figures 10A and 10B would also be arranged "successively," which is

[3] *See* Ans. 9 ("It is examiner's position that the term successively only connotes a manner of the data units being arranged such that data units come after other data units and does not limit the claim to the feature "wherein the first positions are" arranged following one another and without interruption as asserted by Appellant.").

inconsistent with the implied definition of "successive" in paragraph 52 of Appellants' Specification.

We decline to consider the undated Oxford Dictionaries definition provided by the Examiner. A definition without a publication date does not establish the meaning of the contested term to an artisan at the time of Appellants' invention. *See* Ans. 8.[4] We find that the 2001 American Heritage dictionary defines "successive" to mean "following in uninterrupted order; consecutive," which is consistent with the description in Appellants' Specification. *See Successive*, American Heritage Dictionary (4th ed. 2001). Thus, on the record before us, we conclude the Examiner's interpretation of "successively" is overly broad.[5]

Appellants further argue that the Examiner erred in relying on Doerr's teaching of a "burst mode" under an alternative theory of anticipation that does not depend on the Examiner's overly broad interpretation of "successively." App. Br. 19; *see also* Final Act. 27; Ans. 9.

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[4] Our reviewing court guides that extrinsic evidence is unlikely to result in a reliable interpretation of claim scope unless considered in the context of the intrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005) (en banc). The court in *Phillips* reaffirmed its view that the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id.* at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

[5] *See Renishaw PLC v. Marposs Societa' Per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (emphasizing that "a common meaning, such as one expressed in a relevant dictionary, that flies in the face of the patent disclosure is undeserving of fealty").

We agree with Appellants that the Examiner has not identified sufficient teachings in Doerr to establish a prima facie case of anticipation under the Examiner's alternative "burst mode" analysis. *See* Final Act. 27; Ans. 9. Moreover, the Answer makes clear that the Examiner "does not rely on certain features found in Doerr as it relates to burst mode for the rejection of the claims." Ans. 9.

For these reasons, on the record before us, we are persuaded the Examiner erred in finding that Doerr discloses the disputed limitations in claim 1. Accordingly, we do not sustain the 35 U.S.C. § 102(e) rejection of independent claim 1, or of dependent claims 2, 8, and 13–15, for which Appellants make no additional arguments. App. Br. 20–21.

Independent claim 16 recites limitations similar to those disputed for claim 1. App. Br. 29. Because the Examiner relied on the same overly broad definition of "successively" and the same disclosure in Doerr in rejecting claim 16, on the record before us, we are persuaded of Examiner error with regard to claim 16 as well. *See* Final Act 21. Accordingly, we do not sustain the 35 U.S.C. § 103(a) rejection of independent claim 16, or of dependent claims 17, 23, and 28–30, for which Appellants make no additional arguments. App. Br. 20–21.

New Ground of Rejection for Claims 1, 2, 8, and 13–15 Under 35 U.S.C. § 101

Under 37 C.F.R. § 41.50(b), we enter a new ground of rejection under 35 U.S.C. § 101 for claims 1, 2, 8, and 13–15 because they are drawn to the abstract idea of organizing data into an abstract data structure. We therefore reject claim 1, 2, 8, and 13–15 under 35 U.S.C. § 101 as directed to a patent-

ineligible abstract idea under *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014).

Following the two-part *Alice* analysis, we first examine claim 1 to determine if it is directed toward an abstract idea. Examples of abstract ideas include mathematical relationships or formulas, algorithms, fundamental economic practices, and methods for organizing human activity. *See Alice*, 134 S. Ct. at 2355–56. Claim 1 is directed to forming a common transport datastream from a plurality of mobile-digital television signal datastreams and from a common stationary-digital television signal datastream. Claim 1 describes a process "for forming a common transport datastream," which is described as a collection of information. Specifically, claim 1 recites "determining a data structure for the common transport datastream" and packing the positions of the data structure of the common transport datastream with "data units." In other words, claim 1 recites a process of taking two existing data sets and combining them into a single data set, the recited "data structure." The data structure is generated by taking existing information (i.e., the recited "data units") and organizing this information into a new form. The claims do not limit the data structure or datastream to any particular physical form. The structure of the data structure and datastream is determined purely by the logical relationships between the data. Thus, we conclude claim 1 is directed to an abstract data structure constituting mathematical and logical relationships between data, and is therefore directed to an abstract idea. *See Alice*, 134 S. Ct. at 2355 (noting that a mathematical formula for computing alarm limits was patent-ineligible); see also *In re Warmerdam*, 33 F.3d 1354, 1362 (Fed. Cir. 1994) (holding that a claim directed to a data structure did not constitute patentable

subject matter because it was nothing more than a way of describing the manipulation of ideas.) As the Federal Circuit has held, "[w]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014).

The second part of the *Alice* analysis requires us to examine the claim elements individually and as a whole to determine whether they provide an "inventive concept" that is enough to transform the claim into something significantly more than the abstract idea itself. *See Alice*, 134 S. Ct. at 2355.

With regard to claim 1, in addition to the data structure, the claim requires determining a number of first and second data units that are constant across time intervals, determining a number of first and second positions for data units by computing greatest common divisors, and packing the positons of the data structure with data units. Taken individually, the "determining" steps are abstract mathematical constructs. Examining the claim as a whole, the data units and positions are part of the data structure itself and amount to nothing more than logical operations that allow the data units to be organized by the packing step. As such, the "determining" and "packing" steps are abstract and fail to transform the claim into something sufficiently more than an abstract idea.

Claims 2, 8, and 13–15 depend from claim 1. Claim 2 further recites a "transmitting" step, in which the first number of data units for each of a plurality of datastreams in a predetermined number of sequences is transmitted. Claim 8 further recites obtaining a plurality of sequences within each time interval from a sum amount. Claim 13 further recites combining a

constant number of the plurality of sequences with data units of a single mobile-digital television signal datastream to form a combination of data units. Claim 14 further recites combining a constant number of data units, stored in certain positions, to form a combination of data units. Claim 15 further recites combining combinations of data units to form another combination of data units. None of the additional recitations in claims 2, 8, and 13–15 provides an "inventive concept" that is enough to transform the recitations of claim 1 into something significantly more than an abstract idea.

New Ground of Rejection for Claims 16, 17, 23, and 28–30 Under 35 U.S.C. § 112, second paragraph

Under 37 C.F.R. § 41.50(b), we enter a new ground of rejection under 35 U.S.C. § 112, second paragraph, for claims 16, 17, 23, and 28–30 because we conclude the recited method steps are amenable to two or more plausible claim constructions under a broad but reasonable interpretation consistent with the Specification.

Independent claim 16 is an apparatus claim that also includes method steps for forming a data structure for the common transport datastream. Under the broadest reasonable interpretation of claim 16, it is unclear whether the claimed device performs the functions under the wherein clause, "wherein a data structure for the common transport datastream is formed by," recited in the claim. It is also unclear what structural element of the device (apparatus) performs the recited steps. Thus, under a broad but reasonable interpretation, we conclude claim 16 is amenable to two or more plausible claim interpretations and does not apprise a person of ordinary skill

in the art of its scope. *Ex parte Miyazaki*, 89 USPQ2d 1207, 1211 (BPAI 2008) (precedential) ("[I]f a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim . . . indefinite."). Claims 17, 23, and 28–30 depend from claim 16.

Accordingly, we reject claims 16, 17, 23, and 28–30 under 35 U.S.C. § 112, second paragraph, as indefinite.

DECISION

We reverse the decision of the Examiner rejecting claims 1, 2, 8, 13–17, 23, and 28–30.

We enter a new ground of rejection against claims 1, 2, 8, and 13–15 under 35 U.S.C. § 101.

We enter a new ground of rejection against claims 16, 17, 23, and 28–30 under 35 U.S.C. § 112, second paragraph.

TIME PERIOD FOR RESPONSE

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review." Section 41.50(b) also provides:

> When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.
>
> (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the MPEP § 1214.01 (9th ed., rev. 07.2015, Nov. 2015).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

REVERSED; 37 C.F.R. § 41.50(b)